

Reference Number	C-ECC.1
Module Title	Critical Care
Category and Value	C – 10 credits
Study Hours	100

Introduction

The module is one of three C- level modules in Emergency and Critical Care. This module is focused upon the physiology, pharmacology and management of the critically ill patient with multisystem disease. It is aimed at veterinary surgeons working in small animal general practice or at an emergency service who are seeing and managing critically ill small animal patients. The module is written from a small animal perspective. The majority of the material will apply to the dog or cat, with a minority of the material addressing common conditions of rabbits and other species.

Aims

The aim of this module is to enable the candidate to extend and consolidate clinical knowledge and skills gained at undergraduate level, so that they can apply this knowledge to critically ill patients they are managing over multiple days. The candidate will be able to evaluate their own standards of critical care and to develop strategies for continuous improvement in the future.

Learning Outcomes

This module will enable you to:

- Gain a sound understanding of the interplay between the cardiovascular, respiratory, renal and endocrine systems that controls homeostasis in the critically ill patient.
- Develop skills that can be used in treating and monitoring critically ill patients.
- Thoughtfully appraise your current working practices with regard to monitoring, treatment and communication issues surrounding the critically ill patient.

Module Content

1. Physiology, Pharmacology and Assessment of the Critically Ill Patient

At the end of the module, you should be able to:

- Produce a therapeutic plan for a critically ill patient supporting their neurological, cardiovascular, respiratory and renal systems.
- Document an understanding of the principles of oxygen delivery and oxygen consumption, homeostatic and compensatory control of blood pressure.
- Describe methods of assessing cardiovascular status such central venous pressure, ECG, cardiac POCUS and arterial blood gases
- Discuss common cardiovascular drugs, including anti-arrhythmics, vasopressors, inotropes and anti-hypertensives drugs.

- Document an understanding of the factors controlling respiratory function and how to assess respiratory function including blood gas analysis and pulse oximetry
- Describe methods of delivering oxygen and assisted ventilation
- Document an understanding of the principles and methods of enteral and parenteral nutritional support
- Document an understanding of the pathophysiology of vomiting, diarrhoea and ileus, and commonly-used pharmacotherapeutics act to control these derangements
- Document an understanding of acute kidney injury and treatment options including dialysis
- Document a thorough understanding of fluid therapy, including crystalloid, colloid and blood products, linear and non-linear methods of calculating fluid requirements, calculation of electrolyte replacement requirements, fluid compartments in the body, factors controlling fluid shifts within the body, calculating fluid balance, calculating constant rate infusion dosages and volumes, using fluid pumps and syringe pumps, and treating common acid-base disturbances
- Show a practical understanding of clinical pathology as it applies to the assessment of critically ill patients, including microscopic evaluation of blood smears, methods of assessing coagulation status, evaluation of body fluids and basic cytology.
- Discuss the indications, contra-indications, routes of delivery and adverse effects of anaesthetics and analgesics available for use in the critically ill patient.
- Discuss the risk factors, pathophysiology, clinical signs and treatment options for septic patients.

2. Communication Strategies

On completion of the module, you must be able to discuss and present information that reflects a thorough understanding of patient, client, referral and team communication issues.

You should be able to:

- Review and assess issues and solutions regarding patient information management, such as records management, tracking therapies and clinical audit methods
- Develop skills that address client communication issues, such as the process and sequence of grief, bereavement behaviours, managing client anger, communicating financial information, communicating patient progress, and ways of documenting client consent
- Develop skills that facilitate colleague communication (including referral), such as writing clear, concise patient summaries, communicating suggestions for ongoing therapy, and strategies for avoiding misunderstandings.
- Demonstrate an understanding of team management issues, such as understanding stressors, managing stress, interpersonal communication strategies, communicating expectations, and preparation for emergencies

Assessment Strategy

Module providers are responsible for deciding on assessment strategies and methods, subject to accreditation by RCVS.